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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,866	08/24/2000	Kenneth A. Lauffenburger	020533.0238	4021

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EXAMINER	
HARPER, KEVIN C	
ART UNIT	**PAPER NUMBER**
2666	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/645,866	LAUFFENBURGER ET AL	
	Examiner	Art Unit	
	Kevin C. Harper	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-39* is/are rejected.

7)☒ Claim(s) *8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Drawings

1. Figure 4A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (specification, page 4, lines 1-5; page 3, lines 5-24). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 12 is objected to because it lacks a period. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 10-11, 14, 21, 23-24, 27 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sriram (US 4,914,650).

3. Regarding claims 1, 14 and 27, Sriram discloses a method for packet bypass in a system of a communication network (abstract, lines 1-3; figs 3-4; col. 3, lines 9-16). The method comprises receiving several packets (fig. 1, items 21, 31 and 41), determining whether each packet is a bypass

packet or a non-bypass packet (col. 4, lines 23-32), communicating the non-bypass packets toward a communication link (fig. 2, steps 115 and 123; figs. 3-4; col. 7, lines 39-42; fig. 1, item 70), and communicating several bypass packets toward the communication link between two of the non-bypass packets (fig. 3, signaling; col. 8, lines 3-20). Further regarding claim 14, the system comprises inherent software encoded on a computer readable medium (fig. 2; col. 6, lines 4-5 and 44-45). Further regarding claim 27, the system includes a communications manager (fig. 1, item 20) for performing the method and a memory for receiving the packets (items 21, 31 and 41).

4. Regarding claims 10-11, 23-24 and 36, the bypass packet and non-bypass packets are stored in a memory (fig. 1, items 21, 31 and 41) and can be selectively retrieved from the memory (fig. 1, item 50; fig. 2, items 105, 115 and 123; col. 4, lines 32-37). The memory comprises a bypass memory (item 21; col. 4, lines 25-27; figs. 3-4) and a separate transmit memory (item 31 and 41; col. 4, lines 28-32).

5. Regarding claim 21, the inherent computer readable medium is capable of storing software that is capable of determining a bypass packet or non-bypass packet based on various criteria and the communication manager is capable of performing packet classification functions (see MPEP 2114).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 15 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sriram (US 4,914,650) in view of Sakuma (US 5,940,405).

6. Regarding claims 2, 15 and 28, Sriram discloses transmitting bypass packets in a communications network (figs. 2-3). However, Sriram does not disclose the bypass packets as an acknowledgment message. Sakuma discloses bypass acknowledgment messages transmitted in a communications network (fig. 8, control data info; col. 11, lines 18-25). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit an acknowledgment messages as a bypass packet in the invention of Sriram in order to provide a time-critical response without excessive delay (Sakuma, col. 11, lines 27-30 and 33-38).

Claims 3-4, 7, 16-17, 20, 29-30 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sriram (US 4,914,650) in view of Bernet et al. (US 6,764,645).

7. Regarding claims 3-4, 7, 16-17, 20, 29-30 and 33, Sriram discloses identifying signaling packets as bypass packets in a communications network (col. 4, lines 25-30; figs. 1, 3-4 and 8). However, Sriram does not disclose identifying the signaling packets based on size. Bernet discloses identifying signaling packets as having a size smaller than a specified size (col. 8, lines 1-11).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to identify signaling packets based on size in the invention of Sriram in order to sort the signaling packets based on an easily calculated criteria.

8. Regarding claim 34, the communications manager of Sriram in view of Bernet (see Sriram, fig. 1, item 20) is capable of performing packet classification functions (see MPEP 2114).

Claims 5-6, 18-19 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sriram (US 4,914,650) in view of Boucher et al. (US 2002/0087732).

9. Regarding claims 5-6, 18-19 and 31-32, Sriram discloses identifying packets having different content (col. 4, lines 25-30). However, Sriram does not specifically disclose determining if a packet is a bypass signaling packet based on the content of the packet. Boucher discloses determining the content of a packet (para. 135, lines 30-37) to assign priority to the packet, where the packet is a TCP acknowledgment. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to give priority to a packet based on its contents in the invention of Sriram in order to transmit an important packet quickly or without delay.

Claims 9, 22 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sriram (US 4,914,650) in view of Aatresh (US 6,067,301).

10. Regarding claim 9, 22 and 35, Sriram discloses transmitting bypass packets in a communications network (figs. 3-4). However, Sriram does not disclose determining a maximum number of bypass packets that can be communicated between two of the non-bypass packets. Aatresh discloses providing fair queuing for limiting the maximum number of high priority packets that can be communicated at one time (abstract, lines 13-14; col. 1, lines 44-51; col. 2, lines 35-37). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the maximum number of bypass packets to transmit between two non-bypass packets in

the invention of Sriram in order to avoid dropping of the non-bypass packets or having excessive delay for the non-bypass packets due to starvation of the non-bypass queue (Aatresh, col. 1, lines 44-51).

Claims 1, 12, 14, 25, 27, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skemer et al. (6,570,849) in view of Calvignac et al. (US 5,557,608).

11. Regarding claims 1, 12, 14, 25, 27 and 37-38, Skemer discloses a method for transmitting packets in system of a communications network (fig. 1). The method comprises receiving packets (fig. 1, item 5; fig. 2, items 13-14; col. 10, lines 56-60) and communicating the packets toward an ADSL communications link (fig. 1, item 4; col. 8, lines 5-15) residing between an inherent modem and an inherent central office. The transmitted packets (col. 8, lines 45-53) are real-time (bypass) packets and non-real time (non-bypass) packets. However, Skemer does not specifically disclose that several real-time packets are transmitted between two non-real-time packets. Calvignac discloses transmitting several real-time (bypass) packets between two non-real-time (non-bypass) packets (fig. 2 and 9; col. 8, lines 41-44). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit several real-time packets between two non-real-time packets in the invention of Skemer in order to reduce the delay associated with the real-time packets (Calvignac, col. 2, lines 25-30). Further regarding claims 14 and 25, the system comprises inherent software encoded on a computer readable medium (Skemer, col. 10, lines 56-60 and col. 8, lines 34-35). Further regarding claim 27 and 37-38, the system includes a communications manager (Skemer, fig. 1, item 5) for performing the method and a memory for receiving the packets (Skemer, fig. 2, items 13 and 14). The communications manager resides within an external modem (Skemer, col. 8, lines 5-15) coupled to a host computer (Skemer, fig 1, item 7).

Claims 1, 14, 27 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. (US 2001/0055303) in view of Calvignac et al. (US 5,557,608).

12. Regarding claims 1, 14, 27 and 39, Horton discloses a method for transmitting packets in a system of a communications network (fig. 1; abstract, lines 1-6). The method comprises receiving priority packets (fig. 1, items 108-109; fig. 7, item 700) and communicating the priority packets toward an inherent communication link between a host (fig. 1, item 100; para. 39, lines 1-7) and a modem (fig. 1, any one of items 101-104; para. 41, lines 1-2). However, Horton does not disclose determining a bypass packet or non-bypass packet and communicating the bypass packets between two of the non-bypass packets. Calvignac discloses transmitting several real-time (bypass) packets between two non-real-time (non-bypass) packets (fig. 2 and 9; col. 8, lines 41-44). The real-time packets have a higher priority than the non-real-time packets (col. 1, lines 28-34). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit several higher priority packets between two lower priority packets in the invention of Skemer in order to give transmission priority to the higher priority packets (Calvignac, col. 2, lines 25-30). Further regarding claim 14, the system comprises inherent software encoded on a computer readable medium (Horton, paras. 39 and 40). Further regarding claim 27 and 39, the system includes a communications manager (Horton, fig. 1, items 108-109; paras. 39-40) for performing the method and a memory for receiving the packets (Horton, fig. 7, item 702-704; fig. 6, item 603). The communications manager resides in a host computer (Horton, para. 39, lines 1-2).

Claims 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton et al. in view of Calvignac et al. as applied to claim 1 or 14 above, and further in view of Blightman et al. (US 2001/0021949).

13. Regarding claim 13 and 26, Horton in view of Calvignac discloses transmitting data packets toward a communication link between a host (fig. 1, item 100 and 109; para. 39, lines 1-7) and a modem (fig. 1, any one of items 101-104; para. 41, lines 1-2). However, Horton in view of Calvignac does not disclose that a PCI bus resides between the host and the modem. Blightman discloses a PCI bus between a host and a network interface (fig. 1). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a PCI bus between a host and a modem or network interface in the invention of Horton in view of Calvignac in order to connect the modem to the host by a standardized and widely used interconnection medium.

Allowable Subject Matter

14. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

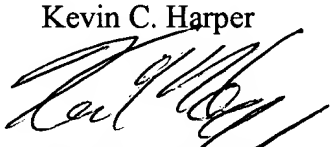
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Keshav (US 5,793,768) discloses pacing TCP acknowledgments to improve TCP transmission rates (col. 2, lines 38-42).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:30 AM to 8:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only (applications must be associated with a customer number). For more information about the PAIR system, see pair.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin C. Harper



October 18, 2002